Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

Claim 1 (previously presented) In an optical communication system, apparatus for amplifying an optical signal, said apparatus comprising:

a fiber;

a first group of N optical pump energy sources disposed to propagate optical energy into said fiber in a first direction; and

a second group of N+1 optical pump energy sources disposed to propagate optical energy into said fiber in a second direction opposite to said first direction; and

wherein N is greater than or equal to 1, Raman amplification is induced in said fiber, and said optical pump energy sources of said first group and said second group each have distinct pump wavelengths, said distinct pump wavelengths alternating in order of wavelength between said first group and said second group; and

wherein said pump wavelengths of said optical pump energy sources are selected to flatten an amplification response of said fiber across a desired frequency band.

Claims 2-3 (cancelled)

Claim 4 (original) The apparatus of claim 1 wherein said first direction comprises a direction of propagation of said signal through said fiber and said second direction comprises a direction opposite to said direction of propagation of said signal through said fiber.

Claim 5 (original) The apparatus of claim 1 wherein said second direction comprises a direction of propagation of said signal through said fiber and said first direction comprises a direction opposite to said direction of propagation of said signal through said fiber.

Claim 6 (original) The apparatus of claim 1 wherein a first gain profile induced by said first group of optical pump energy sources and a second gain profile induced by said second group of optical pump energy sources compensate each other to provide a substantially flat total gain profile.

Claim 7 (original) The apparatus of claim 1 wherein at least one optical pump energy source of said first group of optical pump energy sources and said second group of optical pump energy sources comprises a substantially depolarized optical pump energy source.

Claim 8 (previously presented) In an optical communication system, a method for amplifying an optical signal within a fiber by exploiting Raman effects, said method comprising:

injecting optical pump energy at N pump wavelengths into said fiber in a first direction; and

injecting optical pump energy at N + 1 pump wavelengths into said fiber in a second direction opposite said first direction; and

wherein N is greater than or equal to 1 and said N pump wavelengths and said N+1 pump wavelengths alternate with one another in order of wavelength; and wherein said N pump wavelengths and said N+1 pump wavelengths are selected to flatten an amplification response of said fiber across a desired frequency band.

Claim 9 (cancelled)

Claim 10 (original) The method of claim 8 wherein said first direction comprises a direction of propagation of said signal through said fiber and said second direction comprises a direction opposite to said direction of propagation of said signal through said fiber.

Claim 11 (original) The method of claim 8 wherein said second direction comprises a direction of propagation of said signal through said fiber and said first direction comprises a direction opposite to said direction of propagation of said signal through said fiber.

Claim 12 (original) The method of claim 8 wherein a first gain profile induced by injection of said N pump wavelengths and a second gain profile induced by injection of said N+1 pump wavelengths compensate each other.

Claim 13 (original) The method of claim 8 wherein injecting optical energy on at least one of said N pump wavelengths or N+1 pump wavelengths comprises injecting substantially depolarized optical energy.

Claim 14 (previously presented) In an optical communication system, apparatus for amplifying an optical signal within a fiber by exploiting Raman effects to achieve a desired gain level, said apparatus comprising:

means for injecting optical pump energy at N pump wavelengths into said fiber in a first direction; and

means injecting optical pump energy at N+1 pump wavelengths into said fiber in a second direction opposite said first direction; and

wherein N is greater than or equal to 1 and said N pump wavelengths and said N+1 pump wavelengths alternate with one another in order of wavelength; and

wherein said N pump wavelengths and said N+1 pump wavelengths are selected to flatten an amplification response of said fiber across a desired frequency band.

Claim 15 (cancelled)

Claim 16 (original) The apparatus of claim 14 wherein said first direction comprises a direction of propagation of said signal through said fiber and said second direction comprises a direction opposite to said direction of propagation of said signal through said fiber.

Claim 17 (original) The apparatus of claim 14 wherein said second direction comprises a direction of propagation of said signal through said fiber and said first direction comprises a direction opposite to said direction of propagation of said signal through said fiber.

Claim 18 (original) The apparatus of claim 14 wherein a first gain profile induced by injection of said N pump wavelengths and a second gain profile induced by injection of said N+1 pump wavelengths compensate each other.